

EXPORT PERFORMANCE IN SUDAN: RECENT TRENDS AND POLICY IMPACT

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The performance of Sudan's exports in the period 1970-93 was, on all counts, very poor. Sudan had been losing its share of total world exports and the cotton market. Recent government programmes adopted an outward-oriented trade strategy with the main purpose of improving price incentives for exports. This outward-oriented trade strategy was implemented through adjustments in the nominal exchange rate, reduction and/or removal of export taxes and quantitative restrictions. None of the adopted programmes appear to have created a clear improvement in price incentives for exports. Available evidence suggests that even if improved price incentives were achieved, their impact on export earning will be minimal if the present structure of exports is maintained.

1. INTRODUCTION

Sudan is predominantly an agricultural country with over 90% of its exports supplied by the agricultural sector. Agriculture is the basic economic activity accounting for more than 35% of Gross Domestic product (GDP). The average share of total exports in GDP for the period 1970-93 is 7.0%. Openness in terms of exports is roughly comparable to that of Somalia and Mauritania, but considerably less than that of other Islamic countries. Imports, on the other hand, accounted for about 14% of the GDP (average for 1970-93). Therefore, dependency of the Sudanese economy on foreign trade is not as great as might be expected. However, the foreign trade sector remains crucial. Taxes on foreign trade constitute more than 40% of the central government revenue.

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2. STRUCTURE OF EXPORTS

2.1. Export Composition

The exports of Sudan are dominated by agricultural products. A small but growing export trade in mineral extractive products (chrome and gold) offers promise of expanded opportunities for foreign exchange earnings. Exports of primary products as a percentage of total merchandise exports were 93%, 94%, and 90% for the years 1970, 1980 and 1990, respectively. These figures are by far greater than the average for the developing countries, which was 25%, 18% and 21% for the three years, respectively.

Like many other African countries, Sudan derives a substantial share of its merchandise exports from only a few commodity categories. Cotton represents by far the largest single export commodity, accounting for almost half of the export earnings (Table 1). Sudan is often cited as a classic case of a "mono-crop dependence". It is clear from Table 1 that over the period 1970-93 Sudan's exports showed a drastic change in their commodity composition. The most noticeable feature is the persistent fall in the share of cotton. In spite of this, cotton maintains the leading position in exports for the entire period. At the same time, exports of groundnut, one of the most important export commodities in the 1970s (22%), became an insignificant commodity in the 1980s. Exports of livestock are resuming an increasing share in 1970-93. The shares of other export commodities witnessed heavy fluctuations.

Using the Hirshman Concentration Index², the commodity concentration index for Sudan's exports was estimated at about 64%, 39% and 32% for the years 1970, 1980 and 1990, respectively. This reflects a large and continuous fall in concentration which appears to be the result of the decline in the share of cotton with a relative increase in the share of other traditional exports rather than of the increase in the number of commodities exported. Though

² The Hirshman's Commodity Concentration Index is defined as:

$$H_j = \frac{X_i/X - 1/182}{1 - 1/182}$$

Where: X_i is the value of exports of commodity i ; and n is the number of commodities exported by the country.

the number of export commodities has shown an increase from 19 to 43, yet the new exports constitute only a tiny portion of the total export proceeds.

2.2. The Direction of Export Trade

Sudan's exports are destined to only a few countries. The destination of Sudan's exports may be ranked in a decreasing order of importance as follows: the European Union (EU); the Arab countries; and other developing countries. Historically, the European Union is the main customer (Table 2). Within this group, Italy and Germany were the largest buyers purchasing mainly cotton and gum Arabic. The directional pattern of Sudan's merchandise trade has been subject to significant changes in the last two decades. The share going to the EU increased between 1970 and 1980, but has been declining since then. The share going to the Arab countries and Japan, though fluctuating, has taken an upward trend. The largest single recipient was Saudi Arabia which accounted for about 15% (average for 1980-93) of Sudan's total exports. The USSR, which was among the largest customers of Sudan in the period until the early 1970s purchasing about 16% of its exports, became an inconsiderable buyer in the late 1970s and the 1980s.

Historical ties, distance, size of the economies in the world economy and the political orientation of governments in Sudan are the major factors that explain this directional pattern of Sudan's exports. Historical ties can explain the heavy concentration of Sudan on the exports of raw materials and the consequent large share of exports going to the EU. In fact, the concentration of Sudan on the exports of raw materials, in particular cotton and gum Arabic, acts to constrain its ability to diversify markets effectively. An analysis of the direction of exports on the basis of commodity categories reveals a difference in the pattern of trade between agricultural raw materials and food products. Almost all raw materials were sent to the industrial countries, while exports of food products were directed mainly to the Arab countries. This is because raw materials can only be sold to economies which have an industrial base to process them.

Table 1
Main Items of Exports as Percentage of Total Value of Exports

	1970		1975		1980		1984		1990		1992
Cotton 61.1		46.0		42.6		49.6		48.0		20.0	
Gum Arabic	8.8		05.0		01.0		07.8		12.0		07.0
Groundnut	5.3		22.6		02.2		03.3		-		05.3
Livestock	-		01.0		06.1		13.8		11.0		21.0

Sesame	6.3		07.8		09.2		12.0		14.0		16.0
Sorghum (Dura)	-		02.0		15.8		01.0		01.0		03.0
Skins and hides	-		-		04.2		05.0				
Others	-	-									

Source: Bank of Sudan Annual Reports (various issues).

Table 2

The Percentage Share of Sudan's Main Customers in
Total Exports Value

	1975	1980	1984	1988	1990	1992	1994
EEC	41.0	27.0	37.0	48.8	26.3	32.2	34.9
Other West European countries	05.0	9.0	1.8	4.2	2.6	5.3	4.3
Saudi Arabia	3.0	21.0	16.0	11.7	16.6	11.3	25.2
Egypt	n.a.	n.a.	3.6		2.0	3.5	2.0
Other Arab countries	10.0	7.0	11.4		3.3	10.3	13.3
China	9.0	9.0	2.0	2.2	6.7	4.5	0.02
USSR	2.0	2.0	0.1	0.8	0.0	0.0	0.0
Other East European countries	10.0	9.0	13.0	-	1.3	0.8	0.5
Thailand	n.a.	n.a.	0.0	-	11.7	14.6	5.9
Japan	4.0	8.0	9.0	11.1	3.3	11.2	6.5
USA	2.0	2.0	7.0	3.2	3.3	4.3	1.8
Others	14.0	6.0			9.3	12.3	5.6

Source: Bank of Sudan Annual Reports, 1980-92, and the Ministry of Finance and Economic Planning, 1990/91 -91/92.

3. SUDAN'S EXPORT PERFORMANCE AND POLICIES 1970-1993

In this section, the paper investigates the performance of Sudan's exports in 1970-93. For purposes of comparison, this period is divided into three sub-periods, 1970-78, 1979-85 and 1990-93. The first sub-period represents the period under the Five Year Plan (the Bread Basket Strategy), the second sub-period represents the Economic Recovery Programme (ECRP)³, while the third period represents the National Economic Salvation Programme (NESP).

3.1. Sudan's Export Performance and Policies during 1970-78

³ The ECRP is an amalgamation of the government's 'three-year revolving investment programs (1977/78-79/80, 1980/81-82/83 and 1982/83-84/85) and the IMF/World Bank proposed stabilisation and adjustment reforms.

Government policy during 1970-78 was not conducive to the promotion of exports. Exports had been subject to high explicit and implicit taxes. Major export crops (cotton, gum Arabic and oil seeds) were marketed internationally through government monopolies which often paid producers very low prices compared with border equivalent prices. In addition, the use of tariffs and quantitative restrictions on imports were pervasive.

Sudan's exports over the period 1970-78 showed a continuous decline relative to GDP (Table 3) and, in real terms, registered a decline of 13% per annum. Over the same period, Sudan's exports also showed a decline in their share of world exports and in their share of exports from developing countries. As Table 4 reveals, the share of Sudan in total world exports dropped from 0.1 per cent in 1971 to 0.04 per cent in 1978. At the same time, Sudan's exports exhibited a declining share of total developing countries' exports which were also declining relative to total world exports. The performance of Sudan's main export commodity, cotton, was even worse than that of aggregate exports.

Sudan's imports, on the other hand, showed an increasing ratio to GDP. This was mainly the result of the sharp increase in oil prices following the first oil shock in 1974. Despite the sizeable reduction in essential imports, particularly over 1975-78, which adversely affected domestic production and capacity utilisation, Sudan's trade deficit as a proportion of GDP increased from 0.5% in 1971 to 7.4% in 1978.

The tightly controlled and administered trade and exchange rate regime became even more heavily regulated and "bureaucratised" until the burden of these distortions on growth became insupportable by the late 1970s. An Economic Reform Programme was proposed in 1978 with the intention to embark upon de-control and trade liberalisation.

3.2. Sudan's Export Performance and Policies during 1979-86

During the period 1979-86, the Sudanese Government undertook a series of measures to increase export production and to reduce the budgetary deficit. The programme proposed a restructuring of incentives through the activation of trade and exchange rate policies and a rehabilitation of the agricultural schemes (Gezira, Rahad, Suki and New Halha). Awad (1983) and Ali (1985) provide some detailed description and analysis of the policy content of these

programmes. An important source of flexibility was the fact that the Sudanese economy was operating well below full capacity. Despite these positive developments, however, Sudan's export performance did not show any significant improvement.

The stagnation of Sudan's exports continued its falling ratio to GDP (Table 3), falling real values and a falling share in world exports. The share of Sudan in world exports dropped from 0.04 per cent in 1978 to 0.019 per cent in 1985 (Table 4). This stagnation in export earnings did not lead to an immediate equivalent contraction in imports. Exports financed a steadily declining share of the import bill while increasing ODA and OPEC aid helped, to some extent, sustain imports for some time.

3.3. Sudan Export Performance and Policies during 1990-93

The National Salvation Revolutionary Government adopted a self-imposed Structural Adjustment Programme called the Three-Year National Economic Salvation Programme "NESP" (1990-93). The major policies included reduction of export taxes and devaluation of the exchange rate where the Sudanese pound was devalued initially by a factor of 500% against the US dollar. A new agricultural credit system was established by all commercial banks working as a "Consortium" to finance agricultural production. Price controls at production, factory and wholesale levels were lifted. To achieve food security, the government reduced areas for cotton production and increased area for wheat. A temporary ban on sorghum export was declared. Despite these positive developments, the share of exports in GDP continued its downward trend, though the real value of exports did not show a clear decline. Sudan's shares in total world exports fell from 0.016% in 1990 to 0.01% in 1993.

Table 3
Sudan's Trade Performance
(in million US dollars at current prices)

	Exports		Imports		Trade
	Value	% of GDP	Value	% of GDP	Balance
1970	298	15.0	284	14.0	013
1975	438	10.1	1034	23.0	-596
1978	532	07.0	1198	16.0	-666
1980	515	6.7	788	19.5	
1982	426	7.8	1214	20.0	

1985	193				
1986	182	5.3	1709	14.7	
1990	356	2.2	-	2.4	
1992	273	1.0	770	1.5	
1993	417	-	746		

Source: Exports and imports data are from *The International Trade Statistics Yearbook (1985-1994)*; GDP figures from the IMF *International Financial Statistics* (various issues).

Table 4
Shares of Sudan's Exports in World Trade

	Share (%) in World Exports	Share (%) in Non-oil LDCs' Exports	Share (%) in Cotton Value	World Export Volume
1970	0.09	0.14	7.5	5.8
1975	0.05	0.09	4.3	3.7
1978	0.04	0.07	4.1	3.3
1980	0.030	0.05	3.0	2.7
1983	0.034	0.07	3.8	4.1
1985	0.019	0.07	-	-
1986	0.023	0.07	-	-
1990	0.016		2.2	2.4
1992	0.011		1.8	1.5
1994	0.011			

Source: Computed from UNCTAD, *Yearbook of International Commodity Statistics, 1985-1994*.

Table 5
Trade Indices (1980=100)

	Export Volume Index	Export Unit Value	Import Volume Index	Import Unit Value	Terms of Trade
1970	202	27	65	28	96
1971	203	30	71	30	100
1972	201	33	67	32	103
1973	198	41	69	40	103
1974	093	69	83	55	126
1975	118	68	111	59	115
1976	157	65	105	59	110
1977	155	78	105	65	120
1978	127	75	104	73	103
1979	115	86	82	86	100
1980	100	100	100	100	100
1981	123	99	105	95	104
1982	114	81	88	93	87
1983	148	78	96	89	88
1984	136	85	84	87	98

1985	087	79	56	87	90
1986	85	72	88	89	81
1987	127	73	62	96	76
1988	108	87	66	102	86
1989	122	102	74	104	97
1990	95	106	45	113	94
1992	80	92	55	113	81

Source: UNCTAD, *Handbook of International Trade and Development Statistics, 1986-93*.

3.4. Have Adjustment Programmes Failed to Promote Exports?

Given that the ECRP and NESP seemingly attacked the problem at source, why did they fail to improve export performance? As it appears from the discussion, a superficial conclusion could be that the policy changes adopted in the two programmes were a failure. Blaming these policies for the stagnation of exports, on such bases only, is a naive critique. Any attempt to evaluate the economic policies undertaken in the ECRP and NESP runs into major difficulty. During the period 1979-93 the Sudanese economy witnessed unprecedented developments in different spheres. This period is marked by adverse weather conditions, war and civil strife.

The droughts of 1983-84 and 1990 in the western and central Sudan led to severe damage in crop production. This, in turn, led to a huge reduction in export supply and exposed the precarious state of the country's food security. The consequences were localised famines, a substantial rise in the real price of food and the increased necessity for food imports.

All these points can be taken as good excuses for the ECRP and NESP not to have achieved their expected targets, yet it does not mean that these programmes could have been a success without these exogenous shocks. It is necessary to examine the issue carefully and in depth. Indeed, a meaningful analysis of this question must bring into effect the abnormal effects of the environmental disasters, violence and other exogenous factors.

4. CAUSES OF STAGNATION IN SUDAN'S EXPORTS IN 1970-1993

To what extent can this disappointing export performance be explained in terms of domestic policy and to what extent in terms of factors out of the Sudanese government's reach? The answer to this question is of great importance given that the ECRP and NESP were based on the argument that domestic policy actions were responsible for the deterioration of exports.

Several fundamental reasons could generally be advanced to explain the slow rate of growth in export earnings. These include:

- The slow growth of production of exportables due to structural and technological backwardness and/or inappropriate domestic policies.
- The rapid growth in the demand for exportables in the domestic market.
- The slow growth in world demand for Sudan's exports.

The remainder of this section examines each of these explanations separately.

4.1. The Growth of Exportable Output

The available statistics reveal that the productivity of Sudan's agricultural exports stagnated relative to world levels in 1970-93. Several factors could explain this stagnation, including differential rates of increase in the level of prices, mainly resulting from increasing domestic supply rigidities; institutional obstacles and tariff-related bias against exports.

The explanation that has undoubtedly received the most attention in the 1970s and 1980s has been the taxation of agriculture and exports. Producers of export crops were confronted with a situation in which their receipts, in domestic currency per unit of sales, failed to keep pace with domestic costs and prices. This worsening in the internal terms of trade of export producers was the result of direct and indirect bias against exports. The most evident bias against exports stemmed from high direct taxation of exported commodities, designed to finance public investment and social subsidies and also from the protection of import-substitutes through tariffs and quantitative restrictions.

While price distortions appear to be crucial in explaining the deterioration in export performance, technological and structural backwardness is also at the root of the problem. The continuous deterioration of the rural infrastructure--transport, power, water, credit and banking institutions, marketing facilities, etc.--and the increasing shortage of consumer goods and imported inputs are among the major constraints to which Sudanese agriculture has been particularly prone.

This points to the slow growth in domestic production as a major factor contributing to the fall in export volume. Comparing the growth rates in production and export volumes of the major export commodities, however, it appears that export volumes deteriorated at a faster rate than the volume of total output. This indicates that the fall in domestic productivity does not explain the whole story.

4.2. The Growth in Domestic Consumption of Exportables

Sudan's exports can broadly be categorised into food products and agricultural raw materials. Raw materials account for more than 65% of export earnings. The domestic consumption of agricultural raw materials--mainly cotton and gum Arabic--constitutes only a tiny proportion of total production. Gum Arabic production is almost entirely for exports and only a little cotton is consumed domestically. The share of cotton used in the domestic textile industry was small and declined in the period 1970-93. A sizeable portion of domestically consumed cotton goes to spinning factories which, in turn, export almost all their output. Domestic demand thus played little or no role in reducing export earnings of cotton and gum Arabic in 1970-93.

The share of domestic consumption in food output, unlike that of the raw materials, was comparatively large and grew at a higher rate. Food crops witnessed a sizeable increase in domestic consumption in 1970-93, due mainly to rising population and increasing consumption by domestic industry. Substantial amounts of groundnut and sesame were utilised as substitutes for cotton-seed by the Oil Seed and Soap Industry, so reducing export earnings from these crops despite the increase in their output.

The effect of this decline on total export earnings, however, was moderately small. This is obviously because the share of these commodities in total export earnings is relatively small, and because part of the domestically processed output, mainly cakes and meals, is also exported. On the basis of the above discussion, it seems reasonable to conclude that the growth in the domestic consumption of exportables in Sudan had a negative but minor effect on total export earnings in 1970-93.

4.3. Sudan's Terms of Trade and the Demand for its Exports

Sudan's net barter terms of trade (NBT) in 1970-78 did not decline, in fact they improved at an average of 2 per cent per annum (Table 5). A considerable part of this improvement was due to rising export prices. This, in turn, was largely attributable to the rapid increase in cotton export prices 1970-78. Cotton export unit values improved despite the small but continuous shift in cotton exports from long-staple (high quality) to medium-staple (lower quality) cotton. The sharp increase in import prices in 1973-74, that resulted from the jump in the world prices of energy products, was almost completely neutralised by a simultaneous sharp increase in the prices of Sudan's exports (especially cotton), pushing the terms of trade index to its highest level in the decade. Although the prices of commodities other than cotton were falling in the years following 1974, they did not offset the favourable cotton export prices. During the period of 1979-85 there was no clear deterioration in the NBT. In 1990-93, however, the NBT declined at an annual rate of about 10%. With the exception of gum Arabic, all Sudan's tradable crops witnessed a decline in their international prices over 1990-93.

From 1982 to 1993, however, the adverse external factors played a significant role in the resultant poor export performance of Sudan. Throughout the period 1978-86, a combination of events made the international environment less conducive to stable growth for most of the oil-importing developing countries. The decline in world prices for the key export commodities--cotton and groundnut--contributed to the decline in export earnings 1982-86. The recession in the world market, high levels of cotton stocks in cotton-importing countries, and quality problems with Sudanese cotton were the main factors.

The demand for Sudan's major export, cotton, showed an upward trend over the period 1979-81. The recession in the industrial countries resulted in a sharp fall in the production of manmade fibre, which constitutes the biggest share in total consumption in these countries. At the same time, the textile production in some developing countries and in the Centrally Planned Economies remained largely unaffected by the recession and thereby ensured a market for cotton. Coupled with the consumers' strong preference for cotton denims and corduroys, this largely protected cotton demand from the adverse effects of the economic slowdown in the 1970s and 1980s.

Sudan accounts for nearly 75% of the world exports of gum Arabic, 25-30% of long-staple cotton, and more than 30% of sesame seeds (averages for

1970-93). Thus, Sudan may not be considered as a price-taker in the world market for these commodities. The foreign price elasticity of demand for these commodities is expected to be inelastic. An expansion in the export volume of these commodities could therefore result in negative additional export receipts. The reduction in export earnings over 1970-93, however, cannot be attributed to the expansion in export volumes at all, as export volumes for the major commodities showed a declining trend. Over the period 1970-93 there was no significant increase in export volumes nor in Sudan's share in world export volume. On the contrary, export volumes and shares in world trade declined significantly (Tables 4 and 5).

4.4. Constant Market Share (CMS) Analysis of the Changes in Sudan's Exports 1975-1993

A constant Market Share analysis carried by Hag Elamin (1990) tends to suggest that for the period 1975-78, commodity composition and a weak competitiveness of Sudan's exports seem to have been the primary forces retarding the growth of exports. Similar analysis for the years 1985 and 1993 indicates that, as in the case of 1975-78, commodity composition and poor competitiveness appear to have been the major factors suppressing the growth of exports (Hag Elamin and Osman, 1995). The negative impact of commodity composition, however, appears to have been greater in 1978 than in 1985 and 1993. It seems reasonable, therefore, to infer that the structural adjustment programme implemented over the periods 1978-85 and 1990-93 failed to improve the commodity mix and that Sudan still remains greatly handicapped by the range of goods it has been offering on the world market.

The adverse effects of commodity composition may be explained by the concentration of exports on a few commodities which face stagnant world demand. Examining the Commodity Concentration Index for Sudan for the years 1975, 1985 and 1993, as indicated earlier, it is evident that exports were reasonably diversified, however. The fall in the concentration index was not the result of the increase in the number of commodities exported, but rather the result of the decline in cotton's share and the increase in the share of other traditional export commodities. This suggests that export diversification has probably taken the wrong direction. The causes of this phenomenon could be state control over the production and marketing of the major export commodities.

It is difficult to establish that all these factors are exclusively the result of internal policy actions, however, rather than the consequences of exogenous constraints and the underlying weakness in the productive base of the country. It is difficult to relate fully the weak "competitiveness effect" to the internal economic rigidities. The "competitiveness effect" is the result of the interaction of supply and demand factors and does not reflect the exclusive influence of any one of them.

The possibly strong competition which the Sudanese exporters face from similar commodities produced in countries with better resource-base and/or a

better resource management, are also expected to be the main factors behind the weak competitiveness of Sudan's exports.

5. THE IMPACT OF ADJUSTMENT PROGRAMMES ON EXPORT INCENTIVES

Acharya (1979) found a very high level of agricultural taxation and discrimination against exports in the 1970s. The World Bank (1986) shows that the ratio of farm gate prices to border prices for the major commodities in the late 1970s and early 1980s was substantially less than one.

Export promotion in Sudan was believed to be achieved by means of policy packages designed to provide the incentives seen to be crucial in promoting the production of exports. The policy instruments of the ECRP and NESP comprised exchange rate reform, trade liberalisation measures (especially the removal of export taxes), elimination of costs and price distortions, a re-orientation of production on the irrigated areas towards Sudan's most competitive crops and reform of the production relations in the state-managed agricultural schemes.

5.1. Estimates of Bias in Sudan's Trade Regime

This section investigates the impact of trade policies on the incentives to produce tradable goods (exportable and importable goods). It considers the overall trade bias and so reveals the extent to which the trade regime encouraged or discouraged the production of exportables relative to importables at the aggregate. The World Bank (1987) defined an outward-oriented strategy as one in which trade and industrial policies do not discriminate between production for domestic and export markets nor between purchasers of domestic goods and foreign goods. In this context, outward-orientation is the strategy with neutrality in incentives between exports and import substitutes. In other words, it is the one characterised by an effective exchange rate for exports (EER_x) equal to the effective exchange rate for imports (EER_m).

The overall trade bias (OTB) can be measured as:

$$OTB = Ex.(1+S_x)/Em.(1+T_m) = EER_x/EER_m$$

Where:

EERx = The effective exchange rate for exports

EERm = The effective exchange rate for imports

Sx = The effective weighted average rate of export tax

Tm = The effective weighted average rate of import tax

Ex = The weighted average nominal exchange rate applicable to exports

Em = The weighted average nominal exchange rate applicable to imports

The weights used for calculating Sx and Ex are the shares in total export value, while for Tm and Em, shares in total import value were used. Using the above equation, and applying the World Bank definition of trade strategies, the interpretation of the bias index will be as follows:

If OTB = 1 : no bias “perfect outward-oriented strategy”.

If OTB < 1 : bias against exports “inward-oriented strategy”.

If OTB > 1 : bias against imports “excessive outward-oriented strategy”.

Based on the implicit export tax and import tariff rates, the annual value of the OTB for 1975-77, 1983-85, and 1990-92 are presented in Table 6. The OTB estimates indicate that Sudan had a strong import-substitution bias throughout the period 1970-92. The bias of 57.8% for the year 1975, for example, indicates that the trade and industrial policy regime raised the price of importable goods relative to the price of exportable goods by 42.2% in that year relative to the free trade situation. Comparing the index of bias for the years 1975-77 (55%) with that for 1983-85 (57.7%) and 1990-92 (52%), it is clear that the bias against exports remained almost unchanged.

Table 6
Estimates of Bias in Sudan's Foreign Trade Regime,
1975-77, 1983-85

Year	Tm	Em	EERm	Sx	Ex	EERx	OTB
1975	0.233	0.4	0.493	-0.25	0.381	0.285	0.578
1976	0.274	0.4	0.510	-0.25	0.376	0.282	0.553
1977	0.325	0.4	0.531	-0.27	0.378	0.276	0.520
1975-77							0.550
1983	0.366	0.90	1.23	-0.19	0.90	0.725	0.590
1984	0.389	1.30	1.81	-0.20	1.30	1.04	0.574

1985	0.454	1.90	2.76	-0.18	1.90	1.56	0.566
1983-85							0.577
1990	0.380	10.5	14.49	-0.21	9.50	7.51	0.518
1991	0.371	25.0	34.27	-0.20	20.5	16.40	0.478
1992	0.340	56.0	75.04	-0.10	47.6	42.84	0.570
1990-92							0.522

Source: Hag Elamin (1990), page 166.

5.2. Direct and Indirect Price Incentives for Exports

The trade bias index measures the effect of trade policy on export incentives analysed within a tradable category. Export incentives, however, could be assessed more appropriately if they are examined in the context of a tradable and non-tradable setting, where the effects of both trade and other macroeconomic policies can be considered. More recent studies (Hag Elamin and El Mak, 1995; Elbadawi, 1992) have identified the price incentive effects in exports resulting from direct (sectoral), indirect (economy-wide) and terms of trade movement. Table 7 summarises the direct, indirect price incentives, terms of trade effect and the total price incentive for the production of export and cereal (food) crops for the period 1970-93. Direct price incentives measure the impact of the sector-specific policies on the incentives for export production. Indirect incentives represent the effect of the economy-wide policies (exchange rate, monetary and fiscal policies). While total incentives measure the total impact of the sector-specific and economy-wide policies.

Examining the results in Table 7, some important observations are worth noting. Agricultural producers were, on aggregate, taxed throughout the period 1970-93. Direct incentives for exports were consistently negative, indicating that the prices paid to producers were less than their border equivalents. Indirect incentives (resulting from economy-wide policies) were, most of the time, greater than the direct taxes. Similar findings were obtained by Elbadawi (1992).

While export crops (mostly non-cereal crops) have been subjected to both direct and indirect taxation throughout the period, cereal crops received some positive nominal protection in 1990-93. This positive protection is not fully policy-induced, it is largely the result of the sharp increase in domestic prices of cereals during periods of food shortages which result mainly from climatic hazards. The findings indicate that economy-wide policies form a significant and a dominant source of tax on exports.

The terms of trade for Sudan's exports improved significantly over 1970-78 and 1979-85, hence reducing taxation, but nonetheless left agriculture with negative levels of overall protection. In the period 1986-93, however, the terms of trade added a substantial amount to the total taxation of agriculture.

Examining the effects of the ECRP (1978-85) and NESP (1990-93) programmes on price incentives for export production, the two programmes do not seem to have created any improvement. On the contrary, total, direct and indirect price incentives deteriorated significantly in the post-programmes periods. Although the NESP appears to have taken more active steps towards liberalisation of farm prices compared with the ECRP, the resultant price incentives seem to have been worse than under the ECRP. The international terms of trade movement aggravated the bias against agriculture during the NESP more than during ECRP. The terms of trade increased the aggregate taxation during the NESP, while they improved export incentives during the ECRP by 19% (Table 7).

The foregoing results suggest that none of the adjustment programmes adopted in Sudan (ECRP and NESP) have created a clear improvement in price incentives for exports, although the ECRP appears to be marginally better. But as explained earlier, during the implementation of these programmes, the agricultural sector faced several shocks due to hazardous climate, deteriorating international terms of trade or civil war which all acted to offset policy efforts to improve incentives. The effect of the climatic shocks was to increase food prices (cereals) and dampen real prices for exportable crops. The effect of the civil war in southern Sudan is very difficult to identify but it can simply be read from the rising budget deficit since 1983, and its consequent inflationary effect.

Table 7
Average Price Incentives for Producers of Export and Food Crops
Due to Direct and Indirect Policy Measures and Terms of
Trade Effects

Years	Direct Price Effect (NRPd)	Indirect Price Effect (NRPi)	Terms of Trade Effect (TOT)	Total (direct, indirect and terms of trade) Effect (NRPt)
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Aggregate Exports				
1970-78	-39	-9	+8	-40
1979-85 (ECRP)	-38	-10	+19	-29
1990-93 (NESP)	-32	-30	-24	-86
Aggregate Cereals				
1970-78	-44	-7		-50
1979-85 (ECRP)	-10	-6	-23	-39
1990-93 (NESP)	14	-51	-38	-75

Source: Hag Elamin and El Mak (1995).

6. THE EFFICACY OF PRICE INCENTIVES IN INCREASING AGRICULTURAL EXPORT EARNINGS

The foregoing discussion seems to suggest that the adjustment programmes implemented in Sudan during the period 1978-93 failed to achieve their targets of improved price incentives for exports. But how important are improved incentives for the promotion of Sudan's exports in the first place. For this state of affairs many explanations have been advanced.

In their assessment of the ECRP, Hussein and Thirlwall (1984) have argued that devaluation, the main policy adopted to promote exports, would lead to a negative effect on export profitability. Using a three-goods macro-model, Haj Diab (1985) shows that because of the institutional and structural rigidities of the Sudanese economy, devaluation of the exchange rate may not succeed in promoting exports and reducing imports. These arguments are analysed at length in Ali (1985).

Hag Elamin (1992) examined the possible effects of relative price changes, resulting from devaluation or otherwise on export earnings. The effects of relative price changes on export earnings were quantified by solving export supply and demand equations in an equilibrium model, where export earnings [were] simulated under alternative relative price scenarios. The results suggest that an increase in real export prices would result in only little improvement in export earnings given the present structure and composition of exports. This implies that Sudan's exports have poor growth prospects.

In summary, available evidence cautions against over-optimism concerning the potency of relative price changes as an effective tool to encourage sustained export growth in Sudan. While part of the problem of

poor export performance is insufficient price incentives, the domestic structural rigidities and the stagnation of foreign demand for its major exports appear to be significant constraints. For relative-price changes to be translated into increased export earning, it is desirable to complement exchange rate adjustment with policies which create incentives at a disaggregated level.

Some structural and institutional reforms also appear to be extremely important if devaluation and other price policies are to be effective. As long as some significant constraints and distortions in the economy continue, the elimination of others will not necessarily result in a gain in efficiency. Although the removal of the remaining distortions may be difficult, their elimination would be crucial to the success of any export promotion programme.

Furthermore, Sudan's economy remains highly constrained by its weak ability to import. Basic inputs need to be imported and without greater availability of fertiliser, insecticides, and agricultural machinery, satisfactory advances in productivity will not be generated in Sudanese agriculture and exports. In the light of such longer-term considerations, it can be generally argued that the inability to generate better sustainable export growth can, in part, be attributed to shortcomings in the policy framework proposed by the ECRP and NESP.

7. CHALLENGES AND PROSPECTS OF THE 1990s

The international environment is changing fast. The successful conclusion of the Uruguay Round, the increasing tendency for establishing and/or activating economic blocs, the recent drastic changes in Eastern Europe, in addition to the unilateral trade reforms in developing countries suggest that the world is undergoing a fast and dramatic changes in its trade relations.

In this dynamic world, Sudan is not an inexperienced player, but still it has to strengthen its position in international markets. The country has to adjust to the pace at which the international situation is changing. This requires exposure to the international market with sufficient cushioning devices to minimise the effect of any negative shocks. Such devices may include membership in regional and sub-regional groupings, as they may help the country to maximise its benefits and improve its bargaining and

negotiating power in the international market. Membership of international organisations such as the World Trade Organisation is also important.

Sudan is in the process of accession to the newly established World Trade Organisation (WTO). It is generally believed that membership of this organisation, which presents a forum for the discussion of trade disputes, will give Sudan some form of protection against unfair competition. Overall, Sudan has the potential and ability to compete in international markets, but guidelines in this regard should be developed and strictly adhered to.

It ought to be remembered that Sudan's economy is highly vulnerable to weather conditions since any major decline in agricultural output automatically leads to very low supply of exports. Sudan's exports are predominantly primary commodities whilst imports are intermediate inputs, petroleum products, machinery and some finished goods. Such structure of exports and imports does not guarantee a long-term solution to the foreign exchange shortage and also poses serious questions for the servicing of the country's foreign debt. By and large, the country's exports cannot compete on the world market if the status quo is maintained unchanged because of the low agricultural productivity and the poor marketing services and structures.

Notwithstanding these constraints, Sudan has a great potential for exports. Many new products could make the foundation of Sudan's export industry. Among the many agricultural product possibilities are live animals and meat, horticultural products (fresh fruits and vegetables) and mineral products. These commodities serve as examples of the type of products Sudan could diversify into. In the identification of export potentials, sustainability of supply, market prospects, quality requirements and their attainment, prices to be fetched, the prospects of meeting delivery schedules, environmental factors all need to be considered.

The Sudan also has a great potential in exporting processed versions of the present raw form exports. A significant expansion in the value-added of exporting could be achieved in this regard. Given the existing production capacity, exports of sugar, processed fruits and vegetables, gum Arabic and *karkadeh* products, and textiles (in the form of yarn, grey cloth and fabrics) may be possible. It is not wise, however, to diversify in all these products at present as some are relatively more capital-intensive and/or skill-intensive and many of them need a reasonable and significant scale of improved

efficiency. The success in this venture, however, requires the provision of the necessary export supporting services.

Diversification into new lines of production is centre-stage in the Ten Year Comprehensive Strategy (1992-2002). Recent changes in government policy emphasise this. Most important among these is the fact that the Government has embarked on an exercise to promote investment. The new thrust is reflected in the Investment Encouragement Act for 1995. The new policy initiative reflects a number of changes which aimed at mobilising and encouraging both local and foreign investors. The Government has also accepted the concept of export processing zones and/or free trade zones, which facilitate incentives for priority sectors, such as those producing for export. The concept will be concretised during the course of the next few years.

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